97 2255

chuck

AGENCY OF TRANSPORTATION **OFFICE MEMORANDUM**

TO: **Michael Morissette, Hazardous Materials & Waste Coordinator**

FROM: **Thomas D. Eliassen, Transportation Geologist via Christopher C. Benda, Soils & Foundations Engineer**

TDE CCB

DATE: **June 13, 2000**

RECEIVED
JUN 15 2000
MAINTENANCE & AVIATION

SUBJECT: **Randolph BRF 0241(29)**

A subsurface investigation was conducted to determine the possible presence of petroleum contaminated soils in the project area along a private gravel drive located just south of the intersection of Town Highway No. 4 and Vermont Route 12. The drive is just northwest of the northern abutment for Bridge No. 42, which crosses the Third Branch of the White River.

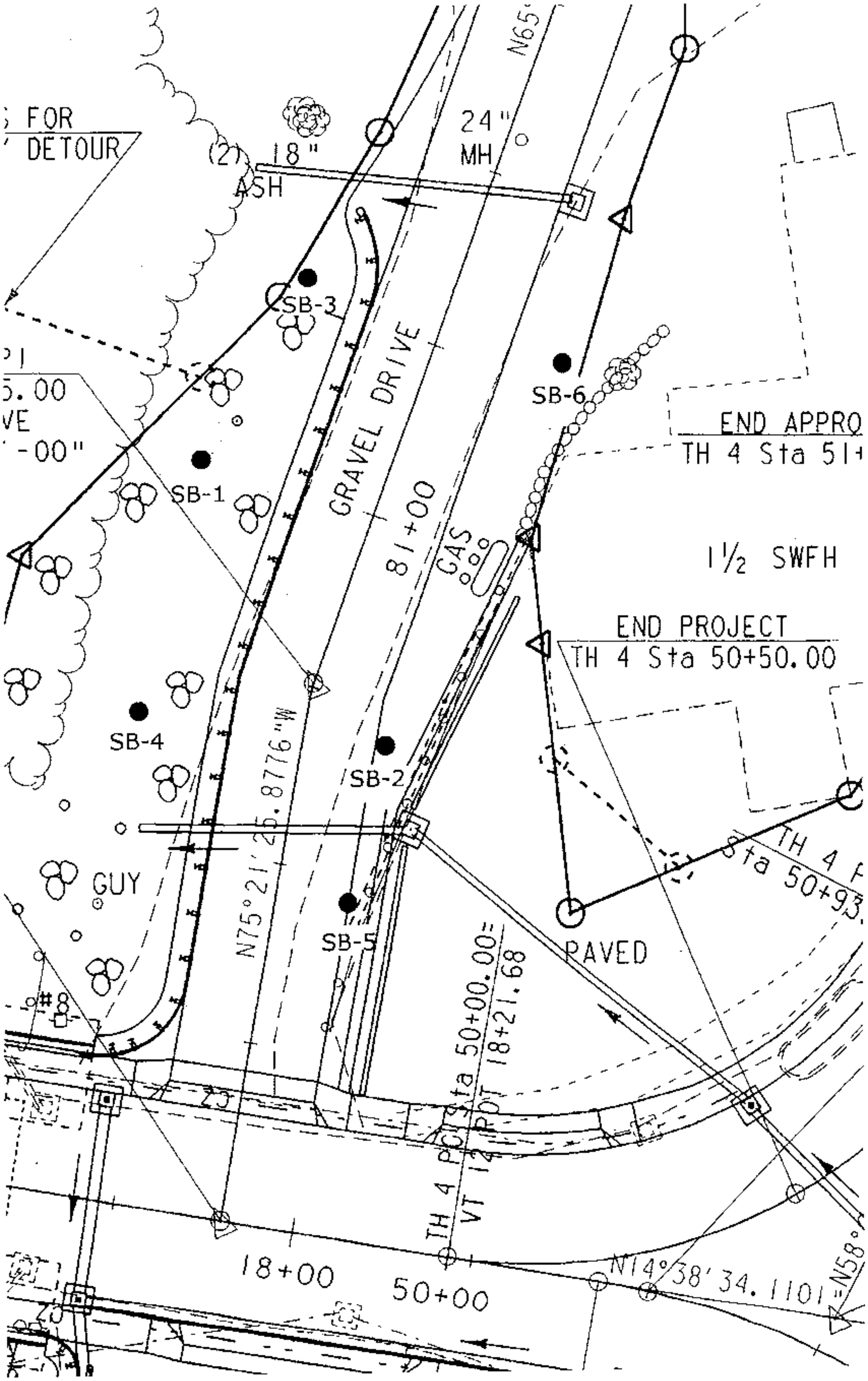
Six borings (SB-1 through SB-6) were performed as part of the investigation. These borings were conducted at various locations adjacent to the gravel drive (see attached Figure). Borings were advanced to refusal (3.5 to 19.0 feet below ground surface) utilizing solid stem augering techniques. Soils taken from the auger flights were screened in the field by sealing each sample in plastic bags and screening headspace in the bags using an hnu brand Photo Ionization Detector (PID). Soils encountered at each boring are described on the attached table. Also included on the table are the boring locations, PID readings and other information useful in assessing subsurface conditions.

Of the six borings analyzed during our investigation, four appeared impacted by petroleum hydrocarbons. Soils between 5 and 9.5 feet in boring SB-2 exhibited hydrocarbon odors and a PID reading of 120 ppm. It should be noted that brick rubble was encountered from 6 to 8 feet in this boring. Soils between the depths of 5 and 7.5 feet in boring SB-6 exhibited hydrocarbon odors and contained a PID reading of 40 ppm. Boring SB-5 encountered soils with slight hydrocarbon odors and an hnu reading of 10 ppm between 10 and 13 feet. Boring SB-1 encountered soils with hydrocarbon odors and an hnu reading of 3 ppm from 12 to 13.5 feet.

Petroleum impacted soils appear to be concentrated in soils just above bedrock (it is assumed that drilling refusal represents the top of bedrock surface) in the area of a concrete retaining wall that borders the northern side of the gravel drive. Neither free product nor groundwater were encountered in any of the borings. If excavation is conducted in this area at depths below 5 feet, petroleum impacted soils will be encountered and allowances for handling and disposal of these soils should be made. For budgeting purposes, it is estimated that the volume of soil expected to register greater than 100 ppm in the vicinity of boring SB-2 is approximately 200 cubic yards.

Attachments
Figure Showing Boring Locations
Table with Auger Drilling Notes

c. C. Williams
T. Eliassen
Read file
Central file


FOR
DETOUR
(2) 18"
ASH
24"
MH
SB-3
SB-1
SB-4
SB-2
SB-5
SB-6
GUY
#8
GRAVEL DRIVE
81+00
GAS
N75°21'25.8776"W
END APPRO
TH 4 Sta 51+
1½ SWFH
END PROJECT
TH 4 Sta 50+50.00
TH 4
Sta 50+93
PAVED
TH 4 PC Sta 50+00.00=
VT 12 POT 18+21.68
18+00
50+00
N14°38'34.1101"=N58°

STATE OF VERMONT
AGENCY OF TRANSPORTATION
MATERIALS & RESEARCH SECTION
SOILS & FOUNDATIONS UNIT

AUGER DRILLING NOTES

PROJECT/ NO. Randolph BRF 0241 (29)
DRILLER McGlynn
DATE 9/15/99
FROM STATION 80+44
TO STATION 81+30

BORING No.	STATION	OFFSET	DEPTH ft.	FIELD SOIL DESCRIPTION				COMMENTS
				SOIL TYPE	COLOR	MOISTURE	PID READING	
SB-5	80+44	10 RT	0 - 5	SiSa	Brn	Dry	ND	
			5 - 10	SiGrSa	Brn	Dry	ND	
			10 - 13	SiSa	Brn/Gry	Moist	10	Slight petroleum odor. Refusal at 13 feet.
SB-2	80+67	10 RT	0 - 5	SiSa	Brn	Dry	ND	
			5 - 9.5	SiSa	Brn/Gry	Moist	120	Brick rubble from 6 to 8 feet. Petroleum odor. Refusal at 9.5 feet.
SB-4	80+67	25 LT	0 - 3	SiSa	Brn	Dry	ND	
			3 - 8	Sa	Brn	Dry	ND	
			8 - 13	SiSa	Brn	Dry	ND	Brick rubble from 10 to 12 feet.
			13 - 18	SiSa	Brn	Dry	ND	
			18 - 19	SiSa	Brn	Dry	ND	Refusal at 19 feet.
SB-1	81+00	25 LT	0 - 2	SiGrSa	Brn	Dry	ND	
			2 - 7	Sa	Brn	Dry	ND	
			7 - 12	Sa	Brn	Dry	ND	
			12 - 13.5	Sa	Brn	Moist	3	Petroleum odor. Refusal at 13.5 feet.
SB-6	81+30	16.5 RT	0 - 5	SiSa	Brn	Dry	ND	
			5 - 7.5	SiSa	Brn/Gry	Moist	40	Petroleum odor. Refusal at 7.5 feet.
SB-3	81+30	19 LT	0 - 3.5	SiSa	Brn	Dry	ND	Refusal at 3.5 feet.

NOTES: ND indicates not detectable above background levels.
PID results reported in parts per million (ppm).